

## Workshop Manual

**TS 35** 

9026-86Y

Doors & Lids and Interior Trimming

RPPU7L1, RPPU7LA

REV. 03 / 01.11.13

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## **FOREWORD**



#### **FOREWORD • INDEX**

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#### 1. About Temsa

#### 1.1. Temsa Global and the Sabancı Holding At a Glance

TEMSA GLOBAL is a Turkish company established in 1968 with its head office in Istanbul (Turkey). Apart from the production of buses and coaches, TEMSA GLOBAL's activities cover the construction and distribution of light commercial vehicles and the distribution of construction machinery. The company currently employs more than 2.000 people.

Temsa Global is the only automotive company selected for the TURQUALITY program that intends to create 10 well known Turkish brands in the next 10 years. Temsa Global carries out its production and sales operations in compliance with the ISO 9001-2000 Quality Management System. It was the first company in the Turkish automotive sector to receive the TS 18001 Occupational Health and Safety Management System Certificate (OHSAS) by the Turkish Standards Institute. In addition Temsa Global received the ISO 14001 Environmental Management System Certificate in 2005. Temsa Global is also the first company in Turkey within the automotive industry to comply to ISO 27001 Information Security Management System, certification of which was completed in 2007.

TEMSA GLOBAL is part of the Tire, tire reinforcement materials and automotive business unit of Sabancı Holding. Sabanci Holding is the parent company of the Sabanci Group, one of Turkey's leading industrial and financial conglomerates. In 2007, the Sabanci Group realised \$14.9 billion USD consolidated revenues and a consolidated net income of \$745 million USD.

#### 1.2. Then and Now

At present, TEMSA GLOBAL is Europe's second biggest independent bus & coach producer. TEMSA GLOBAL purchases its engines from a number of different suppliers (as for example DAF MAN or CUMMINS). Coaches and midi-buses manufactured by TEMSA GLOBAL are exported to more than 40 countries, many of which are EU member states (including France, Germany, Belgium, Italy, United Kingdom, Poland, Austria, Hungary, Greece, Bulgaria etc). In total, 75% of the buses produced by TEMSA GLOBAL are exported.

#### 1.3. The Way Forward

TEMSA GLOBAL is determined to focus on satisfying its customers and to continue on its path of success through improvement, innovation and development with full confidence.

As one of the biggest independent bus and coach producers, taking into account the continued globalization of the automotive sector, TEMSA GLOBAL inevitably saw the need for integrating its product line with some of the worlds leading brand-name component producers. TEMSA GLOBAL will expand this cooperation with other producers, and continue to collaborate with highly reputable European consultants in an effort towards continuous development and innovation of all its vehicles.

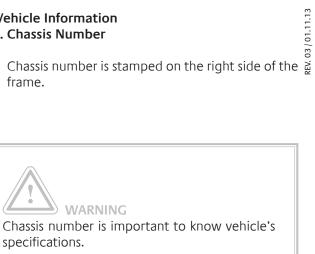
In line with its vision to become a world class global brand, TEMSA GLOBAL is keen on establishing collaborations with international partners from different parts of the world to increase its presence in the commercial vehicles industry.

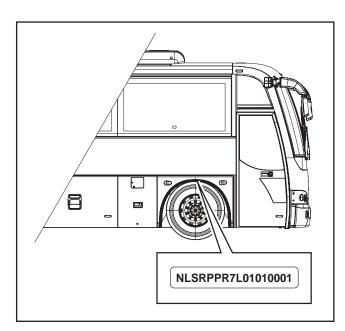
#### 2. General Precautions

Please read the rules in this Section carefully; to avoid the risk of death, injury or property damage. Qualified and trained technicians should use The Service Information Manual. Making repairs or service without the adequate training and using inappropriate tools and equipment may cause injury and could damage the bus. Some of the procedures require specific tools designed for specific purposes, so use the tools mentioned in the manual when necessary.

Bus service and repair must be done correctly following the structions to ensure the safety of the service technician and correct function of the bus. If a part must be replaced, the same part number or an equivalent part should be used. Pay great attention to use a replacement part of good quality.

There are Warning, Caution and Note statements in the Service Information which are very important for the safe service operations. Service personnel must understand these statements fully to reduce the risk of death or injury during service, repair or operations. Inappropriate service or repair may damage the bus or cause operational faults.

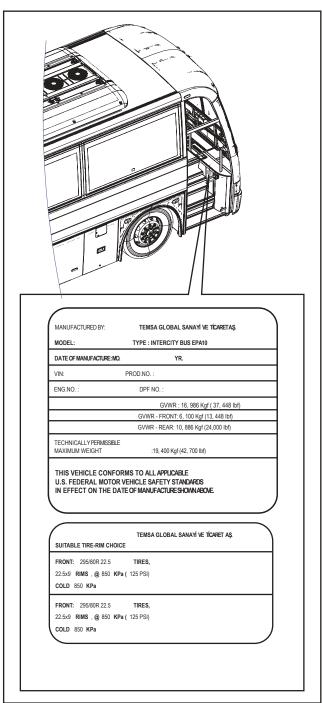




#### 3.2. Vin Code

3. Vehicle Information 3.1. Chassis Number

> Identification label is located on the area shown in the figure. The information on the label enables faster road assistance and spare parts service.





WARNING

Dress correctly to avoid injury and damage to the vehicle.

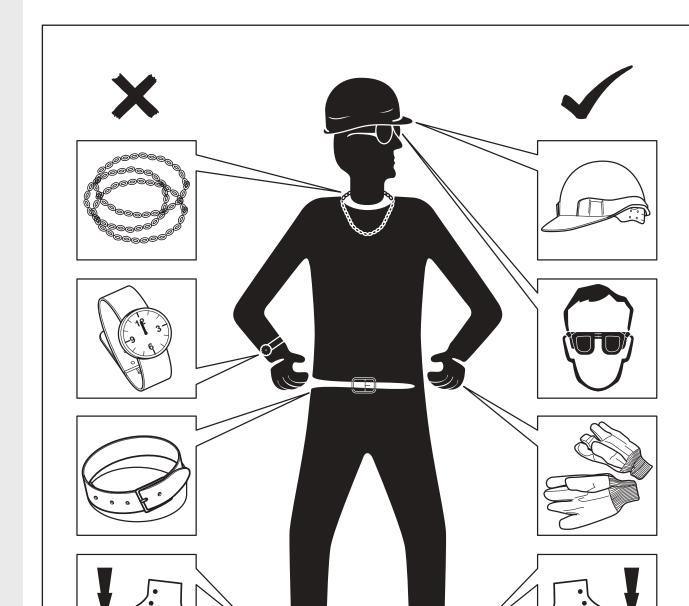
#### 4. Before Start of work

#### 4.1. Mechanical Requested Dress Code

Always wear protective clothing. Do not wear any damaged or loose-fitting clothing and remove jewelry before starting the work. In case of long hair use hairnet.

The illustration below shows some of the correct on incorrect clothing that should been worn during work.

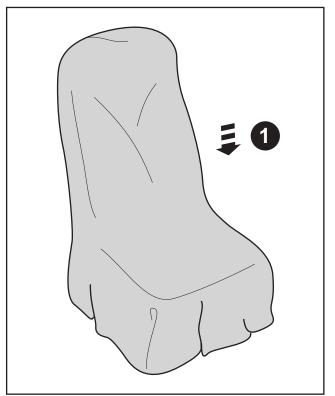
Sharp edges should be avoided e.g belts, watches, necklaces to prevent scatching the vehicle.



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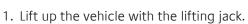


#### 4.2. Protect Seats when Mechanics Start Working

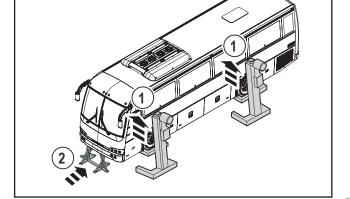
Protect Seats when Mechanics Start Working

1. Seats, trimming, upholstery stuff and carpeting should be protected with appropriate coverings.





2. Support the frame by rigid rack after lifting





#### WARNING

- Support the vehicle securely so it does not move.
- Do not remove the support until the entire operation is completed.
- Always perform the following procedure on a flat surface.
- Never jack up on soft ground.
- Check tire pressure.



Use gloves during removal or installation of tires to prevent injury to your hands.

# <u>.</u>

## 6. Tightening Torques List

Quality	8.8		10.9		12.9	
	Nm	Ft-Lbs	Nm	Ft-Lbs	Nm	Ft-Lbs
M4	3	2.2	4,4	3.2	5	3.7
M5	5,9	4.4	8,7	6.4	10	7.4
M6	10	7.4	15	11.1	18	13.3
M8	25	18.4	36	26.6	43	31.7
M8 x 1,00	22	16.2	30	22.1	36	26.6
M10	49	36.1	72	53.1	84	62.0
M10 x 1,25	42	31.0	59	43.5	71	52.4
M12	85	62.7	125	92.2	145	107.0
M12 x 1,25	76	56.1	105	77.4	130	95.9
M14	135	99.6	200	147.5	235	173.3
M14 x 1,50	120	88.5	165	121.7	200	147.5
M16	210	154.9	310	228.7	365	269.2
M16 x 1,50	180	132.8	250	184.4	300	221.3
M18	300	221.3	430	317.2	500	368.8
M18 x 1,50	260	191.8	365	269.2	435	320.9
M20	425	313.5	610	449.9	710	523.7
M20 x 1,50	360	265.5	510	376.2	610	449.9
M22	580	427.8	820	604.8	960	708.1
M22 x 1,50	480	354.0	680	501.6	810	597.5
M24	730	538.4	1050	774.5	1220	899.9
M24 x 2,00	610	449.9	860	634.3	1050	774.5
M27	1100	811.4	1550	1143.3	1800	1327.7
M30	1450	1069.5	2100	1549.0	2450	1807.1
M33	1970	1453.1	2770	2043.1	3330	2456.2
M36	2530	1866.1	3560	2625.9	4280	3156.9



This symbol is used in conditions which may cause damage or injury if necessary measures are not taken.



This symbol is used in conditions which may cause severe damage or fatal injury if necessary measures are not taken.



This symbol is used to indicate danger.



This symbol is used to inform the user that a visual inspection is necessary.

### 7. Symbol List

Symbol List

Operating Instructions in this manual includes the following symbols, warning words and signs:



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## **01 DOORS AND LIDS**



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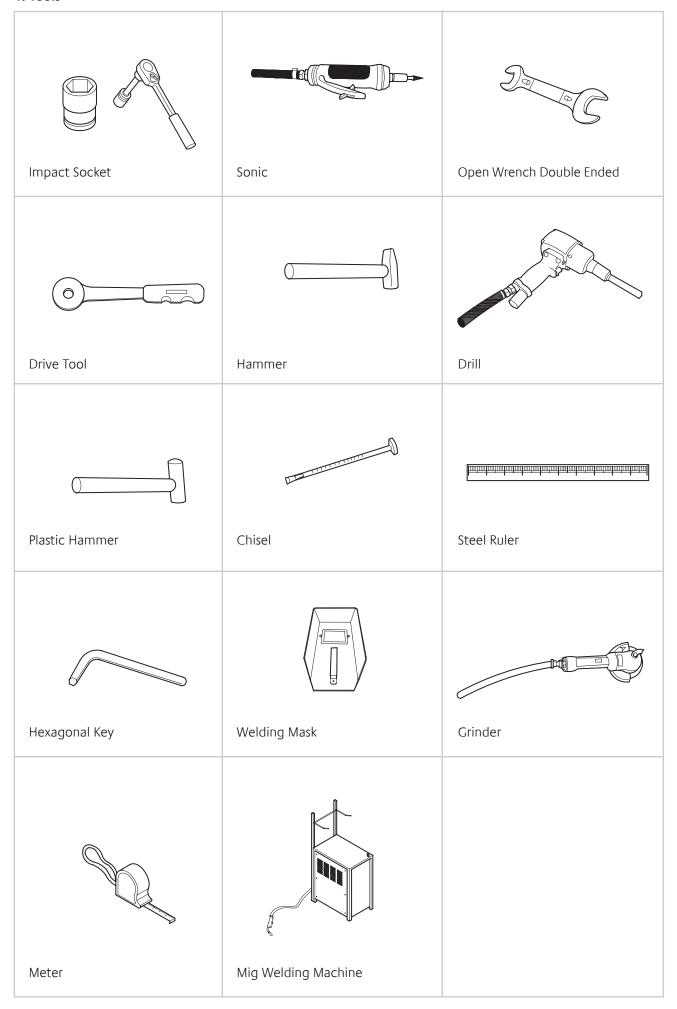
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- General

   If work is performed by people who do not have the necessary training to carry out the work or if this information is handled carelessly or totally ignored, this may result in severe injury and/or death. In addition, serious and the serious because of the serious o damage to the vehicle may occur.
- Always read the safety instructions in full before starting certain operations. The safety instructions stipulate which aspects must be considered to achieve maximum safety. The information that is given is very important for health and safety.
- Always work in adequately ventilated rooms with sufficient lighting, free from dirt and clutter. Never leave tools or parts lying around, keep away from (high-) voltage sources that present a risk of short-circuiting. Always wear protective clothing. Do not wear any damaged or loose-fitting clothing and remove jewelery before starting the work. In case of long hair use a hairnet.

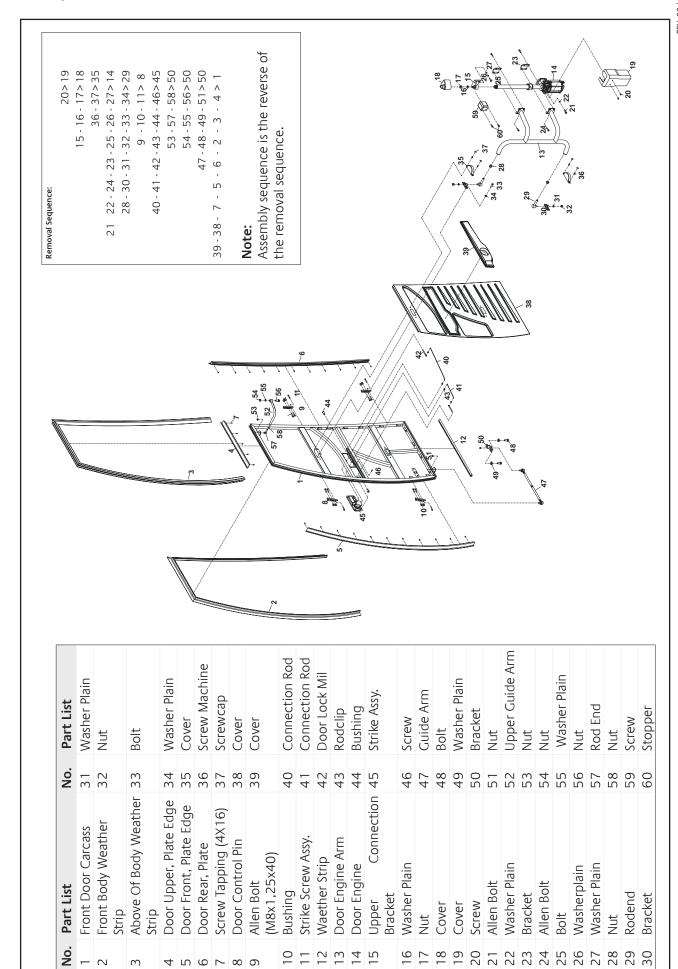


#### 1. Tools



#### 2. Structure and Operation

#### 2.1. Exploded View of Front Door

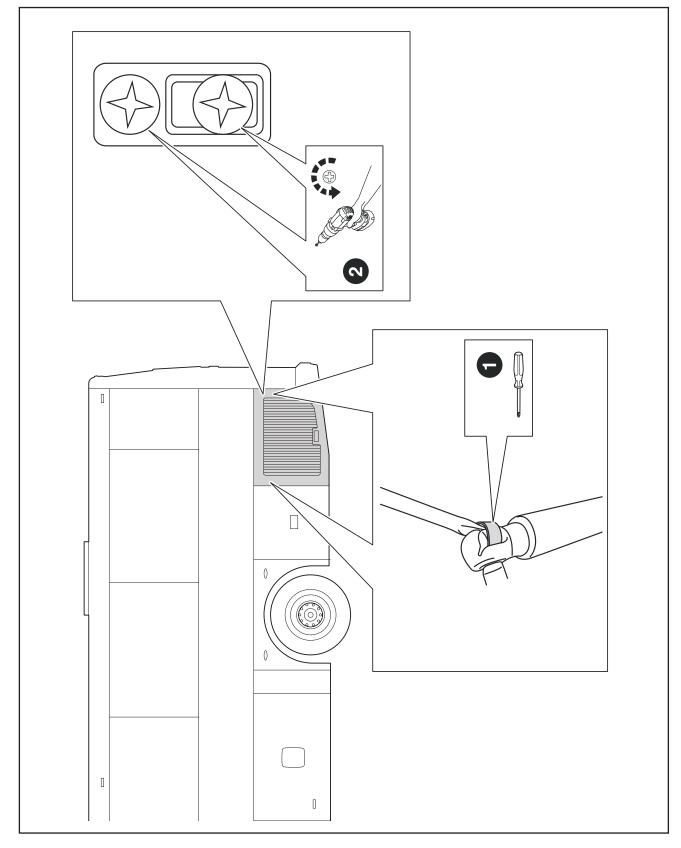


#### 2.2. Radiator Maintenance Lid

#### 2.2.1 Removal Of The Radiator Maintenance Lid

- Open radiator maintenance lid. Pull the clips to the outside. Remove shock absorber.
   Remove screws shown in the figure. Pull and remove radiator maintenance lid from the hinge.

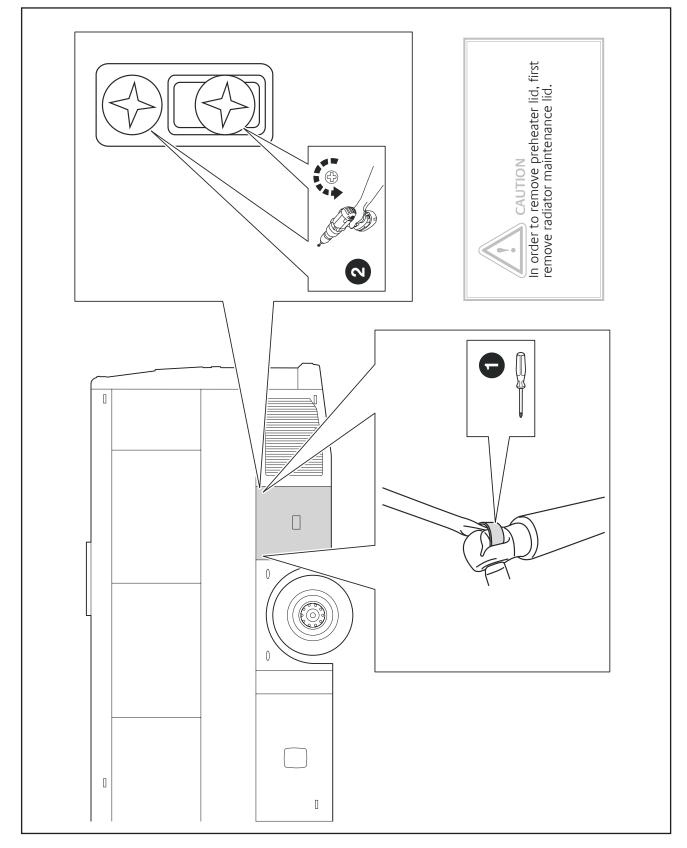




#### 2.3. Preheater Maintenance Lid

#### 2.3.1 Removal Of The Preheater Maintenance Lid

- Open Preheater maintenance lid. Pull the clips to the outside. Remove shock absorber.
   Remove screws shown in the figure. Pull and remove Preheater maintenance lid from the hinge.

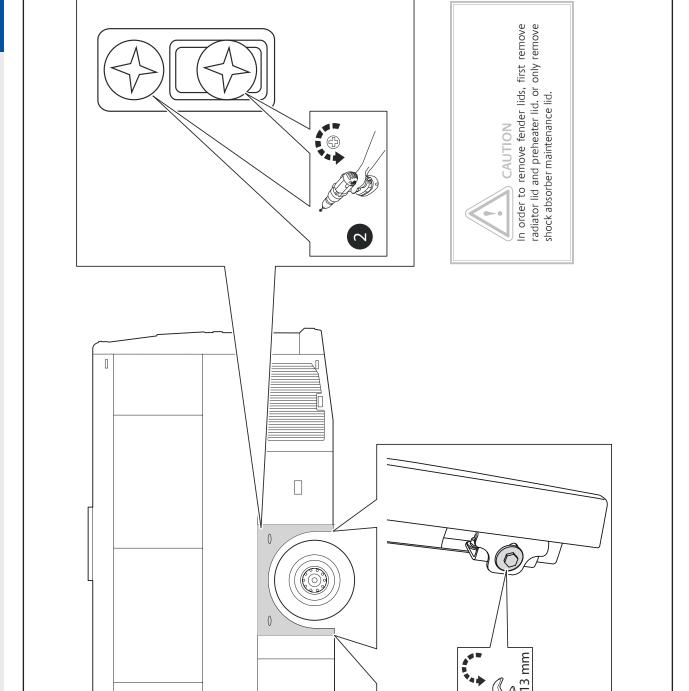




#### 2.4. Rear Left Fender

#### 2.4.1 Removal of the Rear Left Fender

- 1. Remove screws and open lid.
- 2. Remove screws shown in the figure. Pull and remove lid from the hinge.

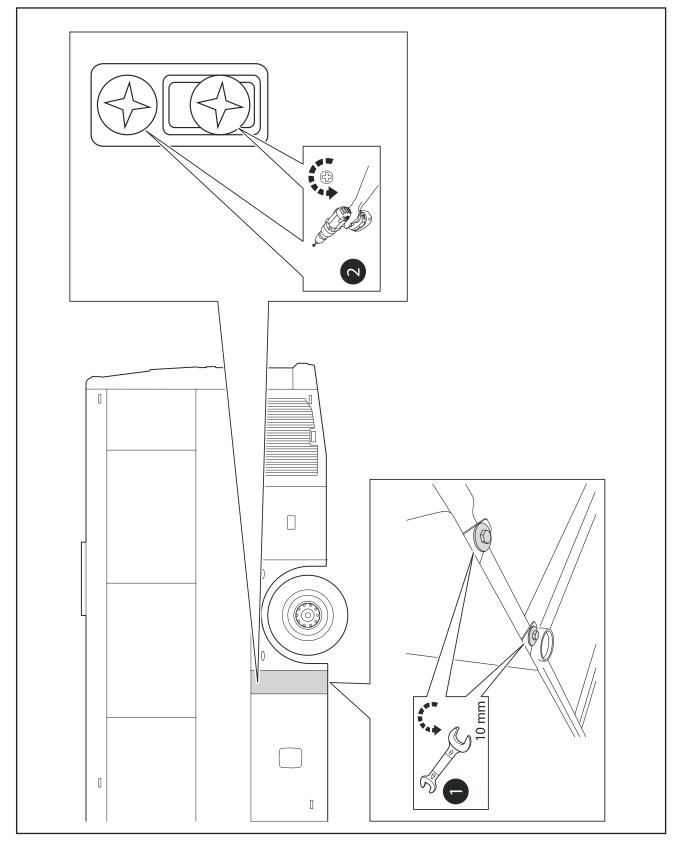




#### 2.5. Rear Left Shock Absorber Maintenance Lid

#### 2.5.1 Removal Of The Rear Left Shock Absorber Maintenance Lid

- 1. Remove screws and open shock absorber maintenance lid.
- 2. Remove screws shown in the figure. Pull and remove radiator maintenance lid from the hinge.

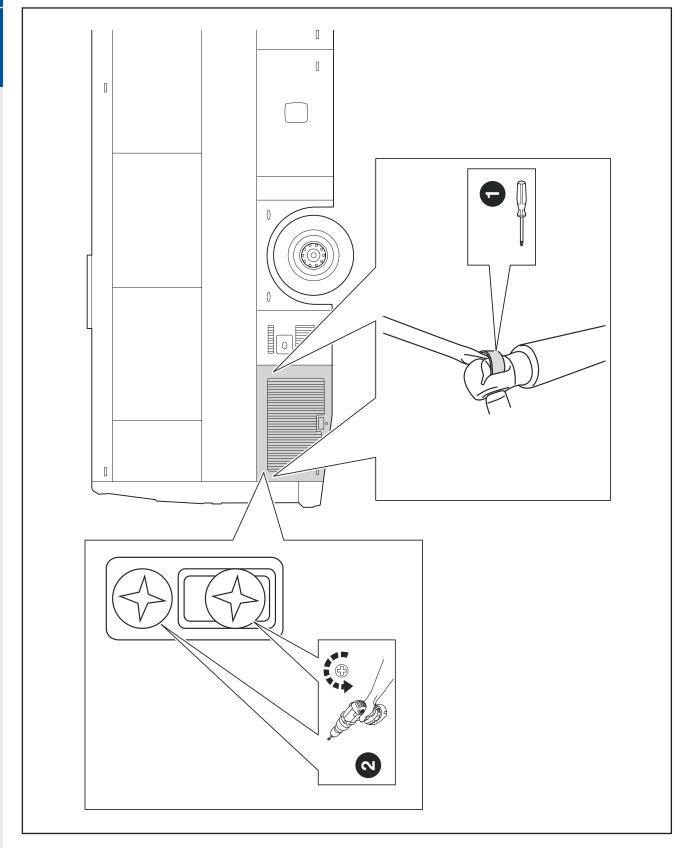




#### 2.6. Exhaust Maintenance Lid

#### 2.6.1 Removal Of The Exhaust Maintenance Lid

- Open Exhaust maintenance lid. Pull the clips to the outside. Remove shock absorber.
   Remove screws shown in the figure. Pull and remove exhaust maintenance lid from the hinge.

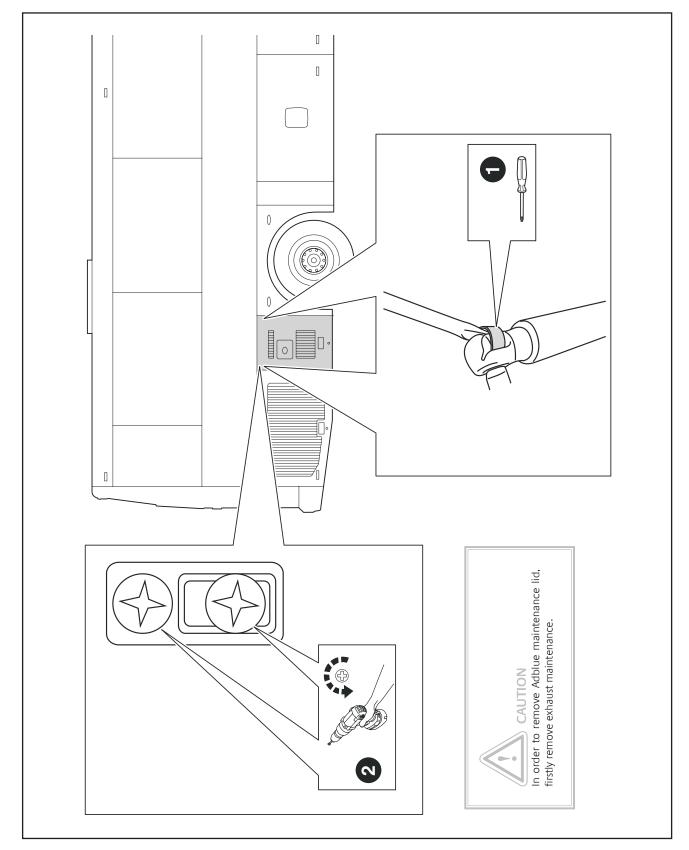




#### 2.7. AdBlue Maintenance Lid

#### 2.7.1 Removal Of The AdBlue Maintenance Lid

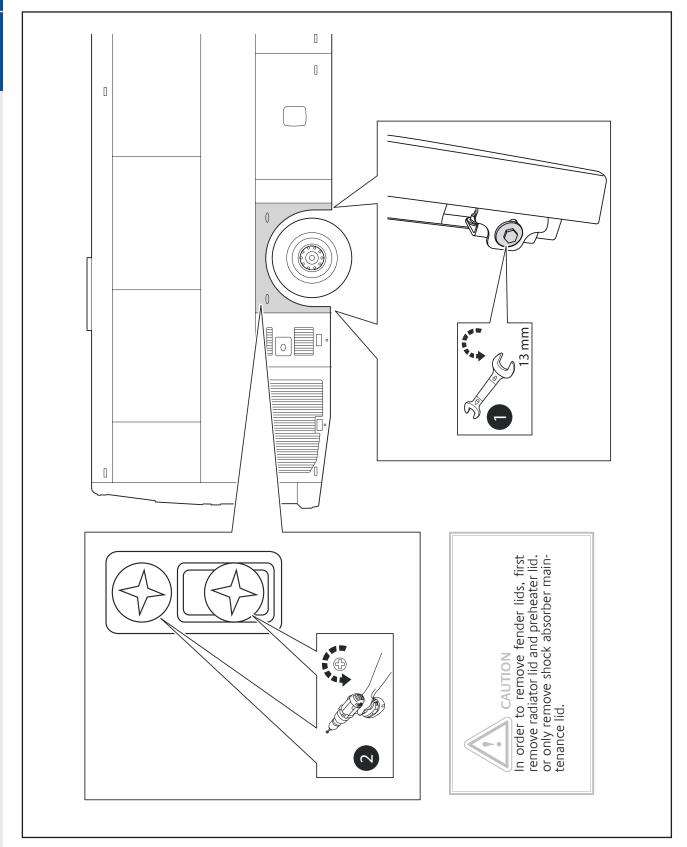
- Open AdBlue maintenance lid. Pull the clips to the outside. Remove shock absorber.
   Remove screws shown in the figure. Pull and remove AdBlue maintenance lid from the hinge.





## 2.8. Rear Right Fender2.8.1 Removal Of The Rear Right Fender

- Remove screws and open fender.
   Remove screws shown in the figure. Pull and remove lid from the hinge.

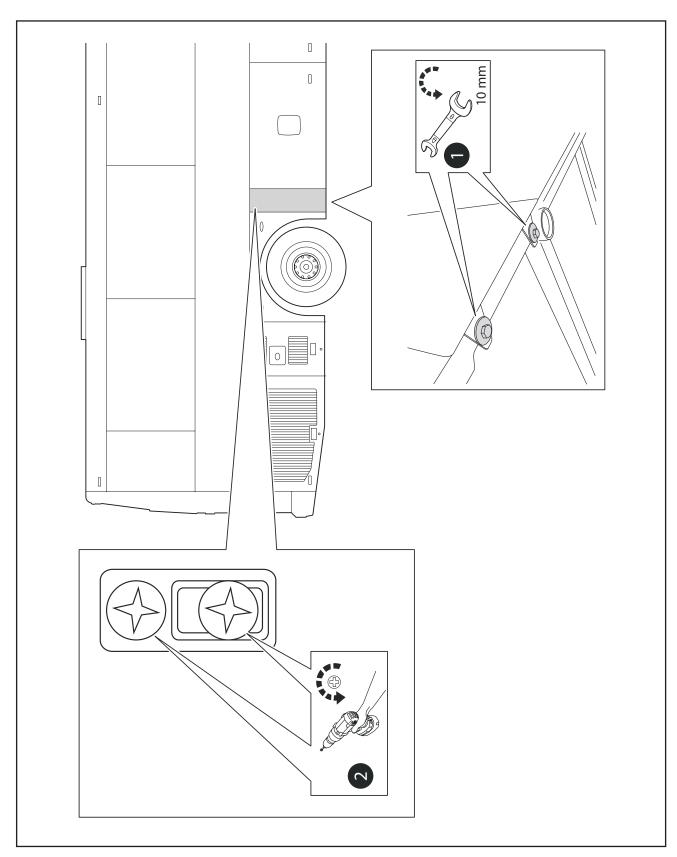




## 2.9. Rear Right Shock Absorber Maintenance Lid

### 2.9.1 Removal Of The Rear Right Shock Absorber Maintenance Lid

- 1. Remove screws and open shock absorber maintenance lid.
- 2. Remove screws shown in the figure. Pull and remove Shock absorber Maintenance lid from the hinge.

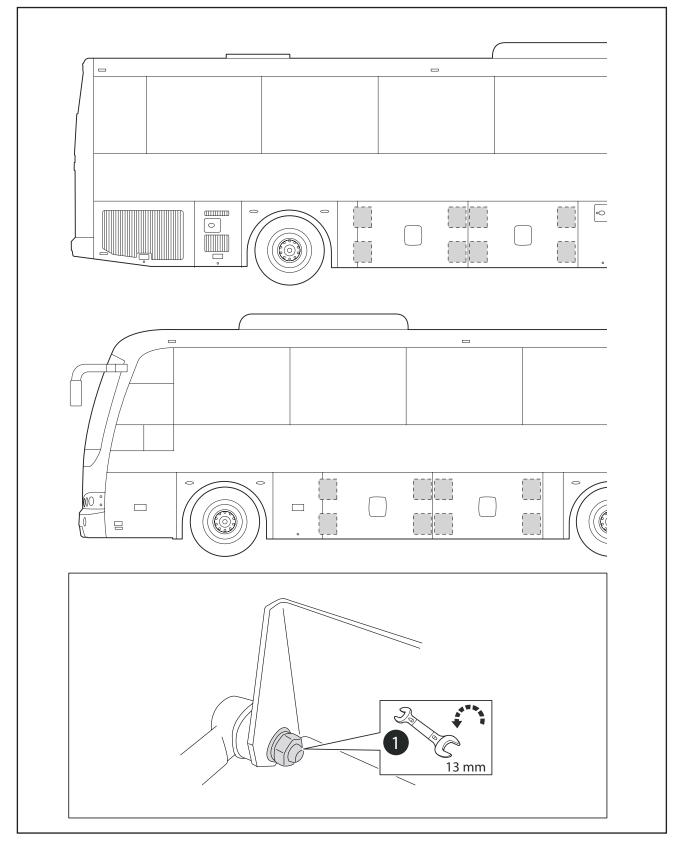




# 2.10. Luggage Compartment Lid2.10.1 Removal Of The Luggage Compartment Lid

1. Open Luggage Compartment Lid. remove nuts shown in the figure and remove lids.

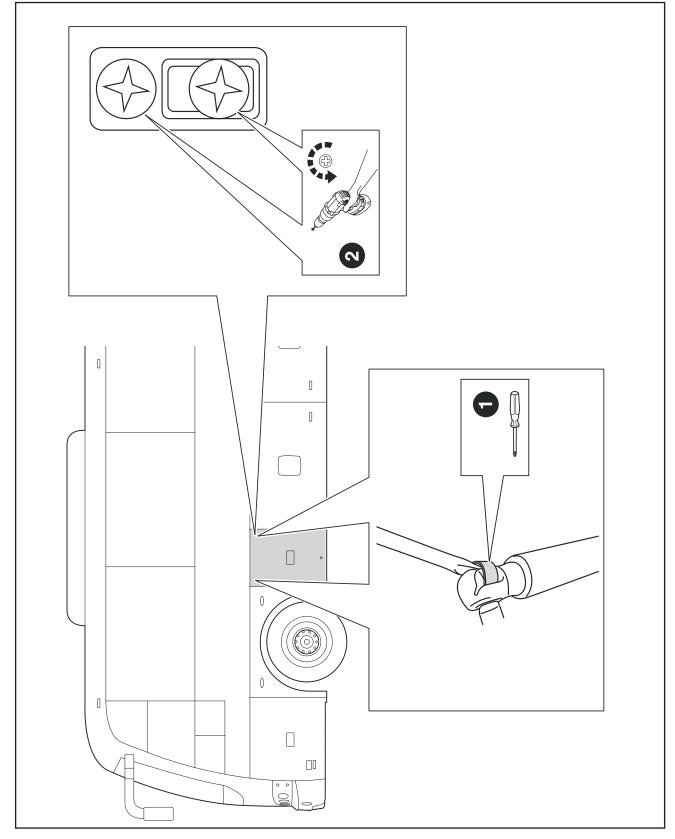




### 2.11. Front Relay Panel Maintenance Lid

### 2.11.1 Removal Of The Front Relay Panel Maintenance Lid

- Open maintenance lid. Pull the clips to the outside. Remove shock absorber.
   Remove screws shown in the figure. Pull and remove maintenance lid from the hinge.



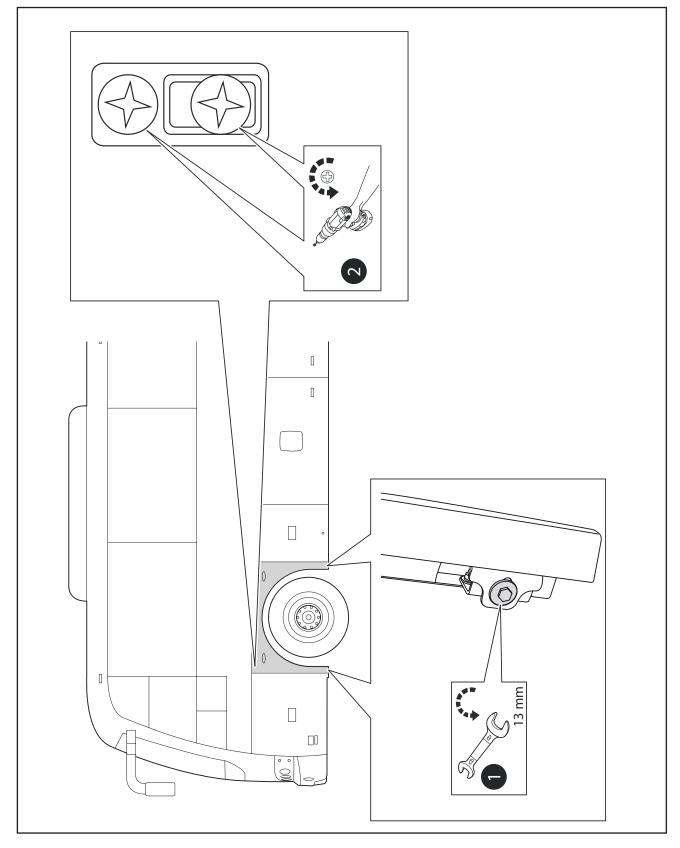


#### 2.12. Front Left Fender

### 2.12.1 Removal Of The Front Left Fender

- Remove screws and open fender.
   Remove screws shown in the figure. Pull and remove fender.

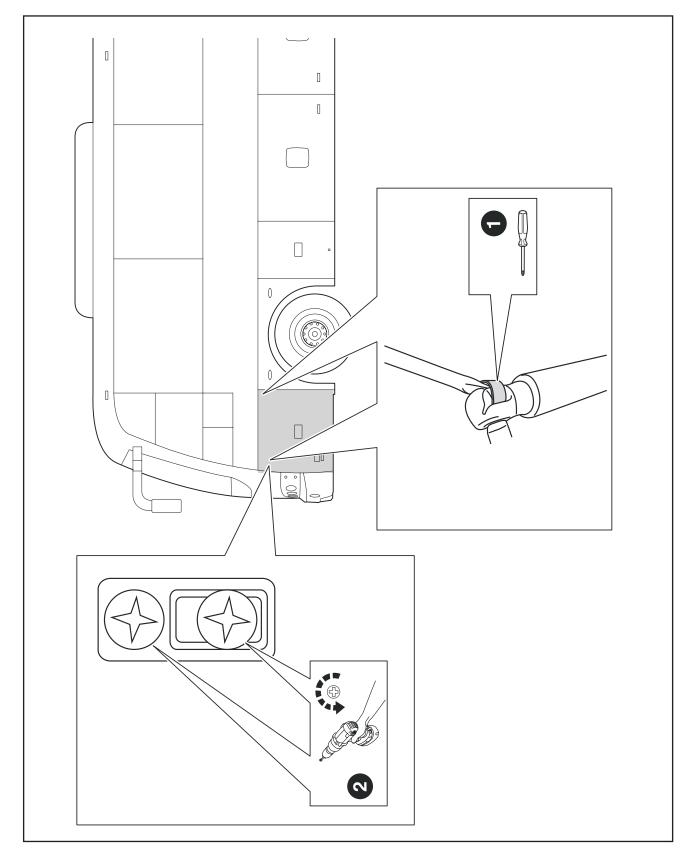




### 2.13. Wiper Water Tank Maintenance Lid

#### 2.13.1 Removal Of The Wiper Water Tank Maintenance Lid

- 1. Open maintenance lid. Pull the clips to the outside. Remove shock absorber.
- 2. Remove screws shown in the figure. Pull and remove maintenance lid from the hinge.

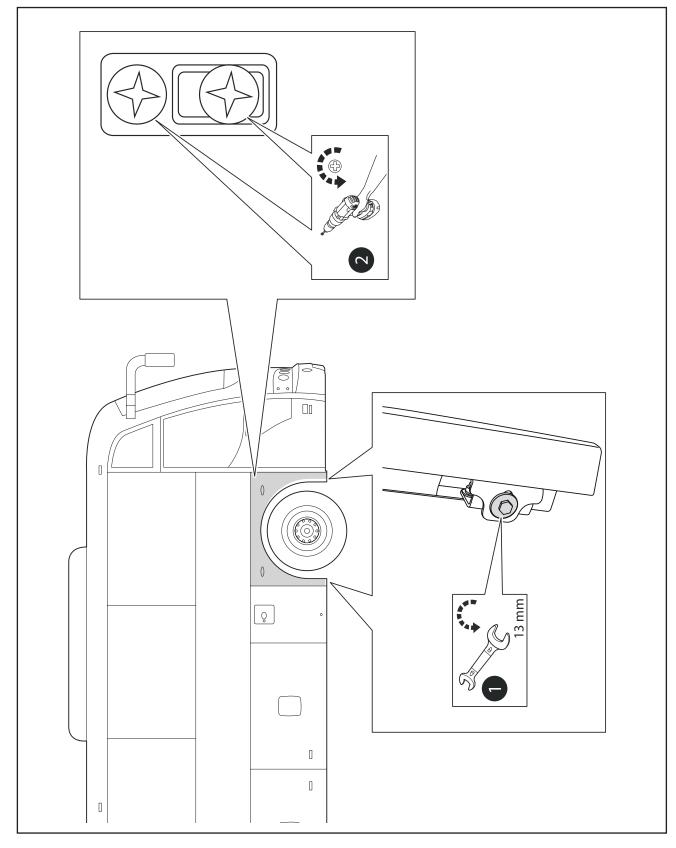




# 2.14. Front Right Fender2.14.1 Removal Of The Front Right Fender

- Remove screws and open fender.
   Remove screws shown in the figure. Pull and remove fender.

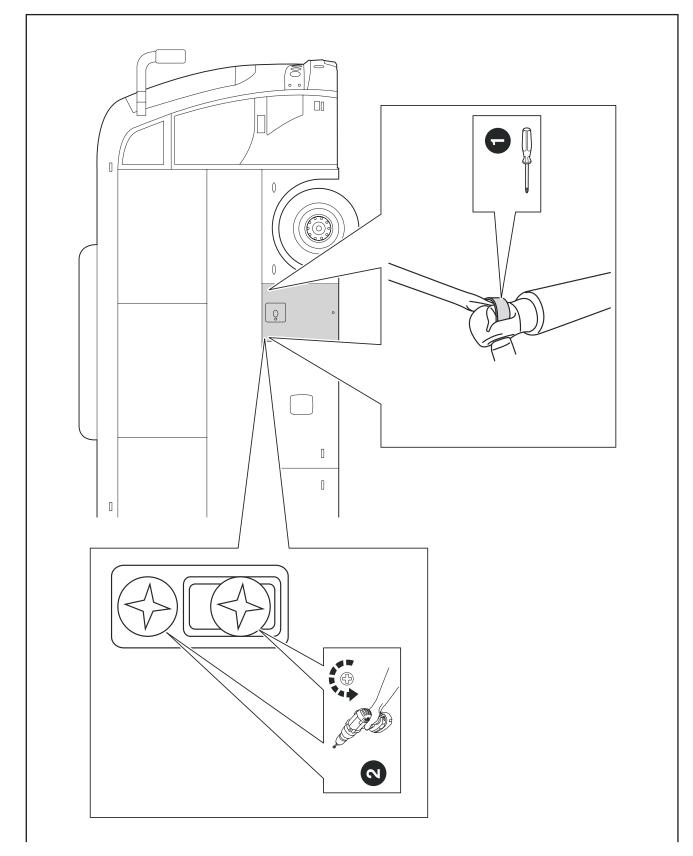




#### 2.15. Fuel Tank Maintenance Lid

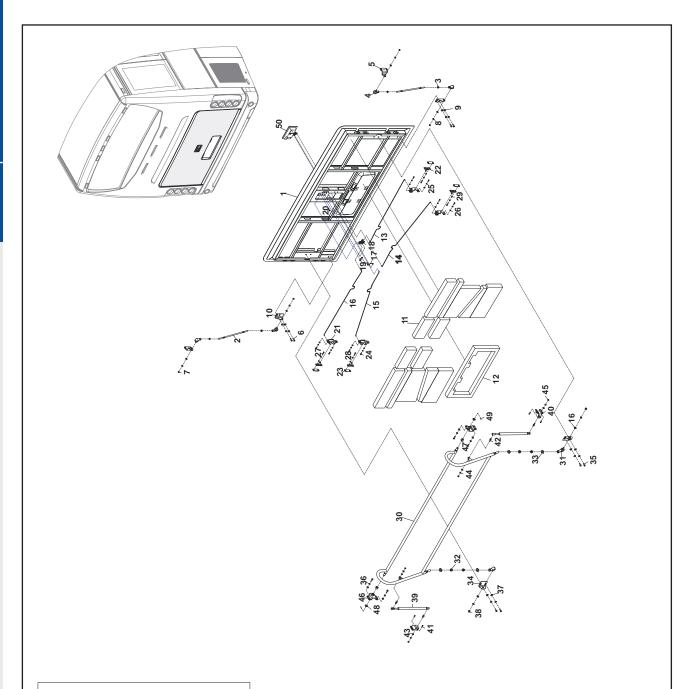
#### 2.15.1 Removal Of The Fuel Tank Maintenance Lid

- 1. Open fuel tank maintenance lid. Pull the clips to the outside. Remove shock absorber.
- 2. Remove screws shown in the figure. Pull and remove fuel tank maintenance lid from the hinge.

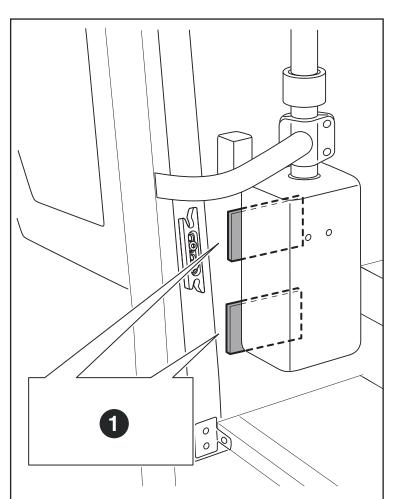








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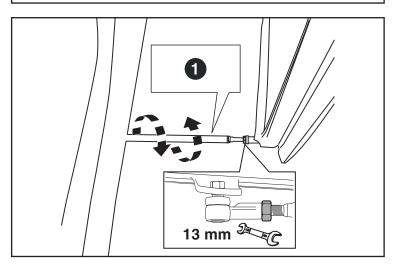


# 3. On Vehicle Adjustments And Inspection 3.1. Door Adjustment 1. The door is adjusted in such a way and the standard of the bound of t

1. The door is adjusted in such a way that all the surfaces of it should be settled to the body. When it is not settled to the body console properly, the adjustment is made in two places. This depends on the door position. In the first adjustment place, it is done by placing a spacer (1) back to the bracket which fixes the door carrier arm to the door by a bracket. In the second adjustment place, it is done by placing a spacer on the upper part of the tube of the door engine.

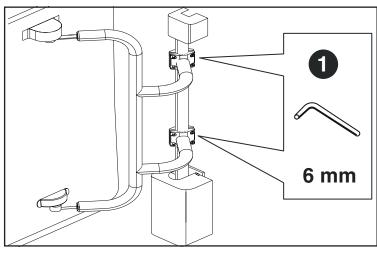


The Lids must be applied equal compress around the body.



## 3.1.1. Adjustment Of The Settlement To The Surface

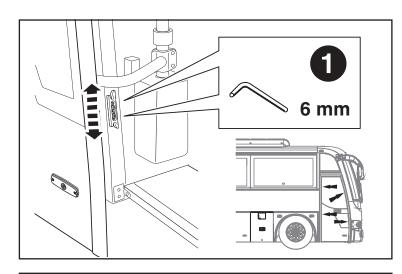
1. By turning the stabilizer rod (1) to clockwise or anticlockwise the adjustment of settlement is made.

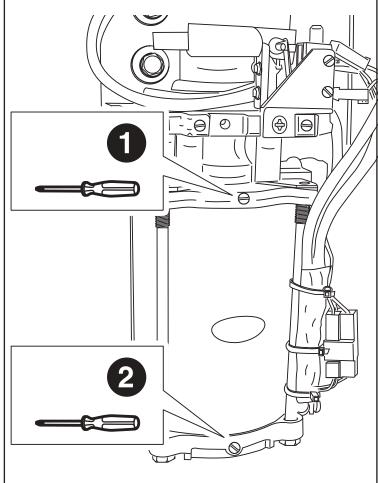


#### 3.1.2. Height Adjustment Of The Door

1. Loosen the connections of the carrier arms on the piston tube. Then bring the door to a suitable height.







#### 3.1.3. Lock Handle Adjustment of the Door

1. The lock handle is adjusted to close the door completely. There should be no gap between the weather strips. To adjust the spacer position untighten the 2 bolts using an allen Key, adjust the spacer then tighten the 2 bolts.



CAUTION

The door must be adjusted parallel to the surface.

## 3.1.4. Opening, Closing And Brake Adjustment Of The Door

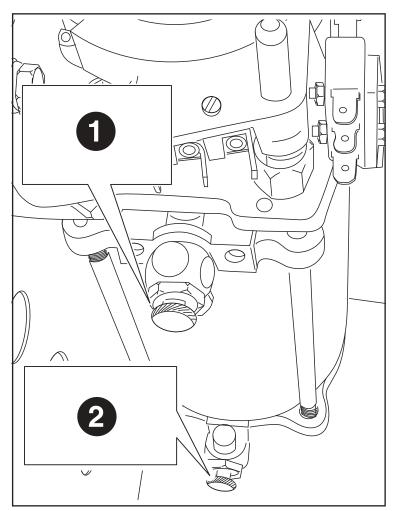
- 1. Door Closing Brake Adjustment is made by tightening or loosening the screw. Clockwise turning slows door closing speed. Anticlockwise increases door closing speed.
- 2. Door Opening Brake Adjustment is made by tightening or loosening the screw. Clockwise turning slows door opening speed. Anticlockwise increases door opening speed.



CAUTION

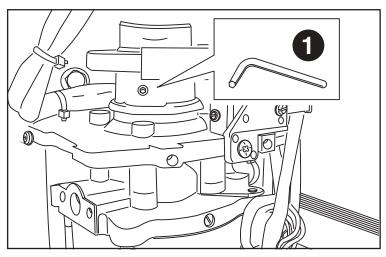
Closing and opening speeds mus be same.





# 3.1.5. Closing And Opening Speed Adjustment Of The Door 1. Door closing speed adjustment is 32

- made by tightening or loosening the screw. Clockwise turning slows door closing speed. Anticlockwise increases door closing speed.
- 2. Door opening speed adjustment is made by tightening or loosening the screw. Clockwise turning slows door opening speed anticlockwise increases door opening speed.

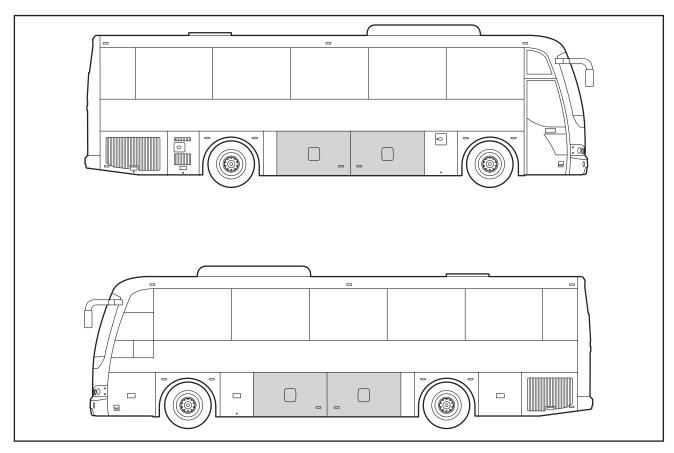


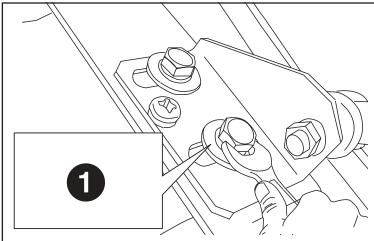
### 3.1.6. Emergency Squeezing Prevention System Adjustment

1. When adjusting the emergency squeezing prevention system initially remove the screw (1) from the door control cylinder cover. Fasten adjustment screw in clockwise direction.

### 3.2. Lid Adjustment

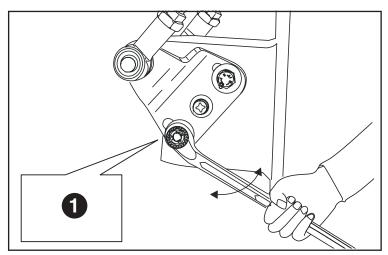
The lid is adjusted by up or down, right or left. Also it must be parallel to the vehicle.





### 3.2.1. Adjustment Right Or Left

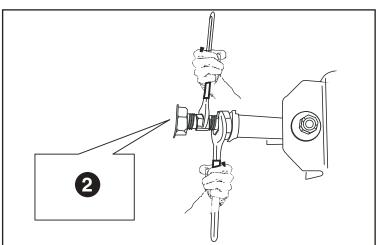
1. Right or left adjustment is provided by these slots. Loosen 2 bolts and repositioning in the slots and retighten.



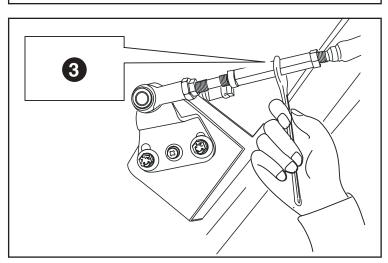
#### 3.2.2. Adjustment Parallel

1. Luggage arms are lifted or lowered to up and down. by loosing bolts and repositioning in the slot and retighten.



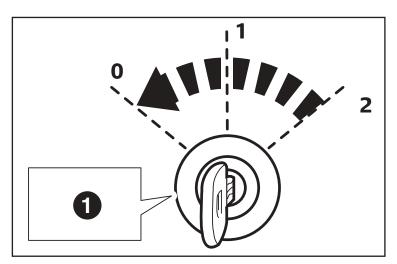


2. Balance rods are shortened or lengthened by screw or unscrew of rods.

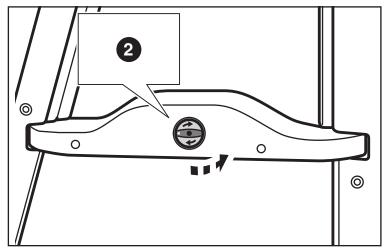


3. Luggage arms are shortened or lengthened by screw or unscrew of rods.

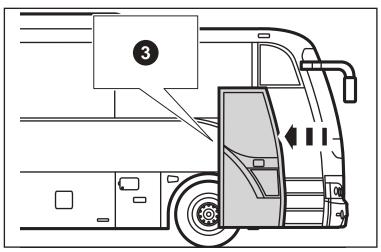




- 4. Service Procedure
- 4.1. Removal And Installation Of Door
- 4.1.1. Door Disassembly
  - 1. Turn the ignition key to off position.



2. By using emergency exit valve release the door air.

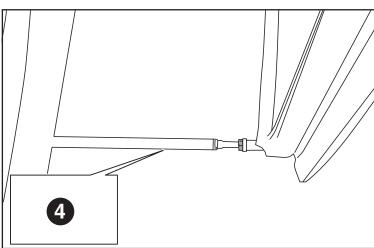


3. Bring the door to the center position / idle time.

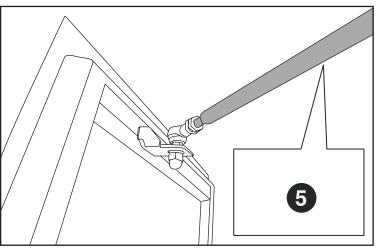


CAUTION

After removing the adjusting nut the door will be free, be careful the door does not hit the body work.



4. Remove the bottom stabilizer rod.

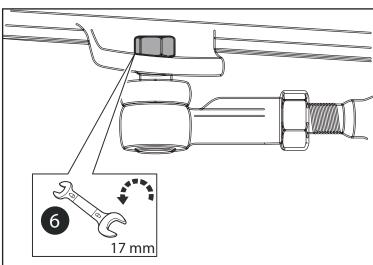


### 4.1.1. Door Disassembly

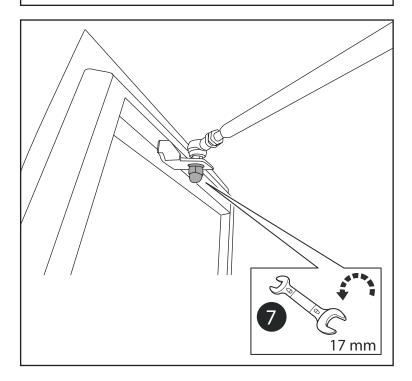
1. Door Disassembly

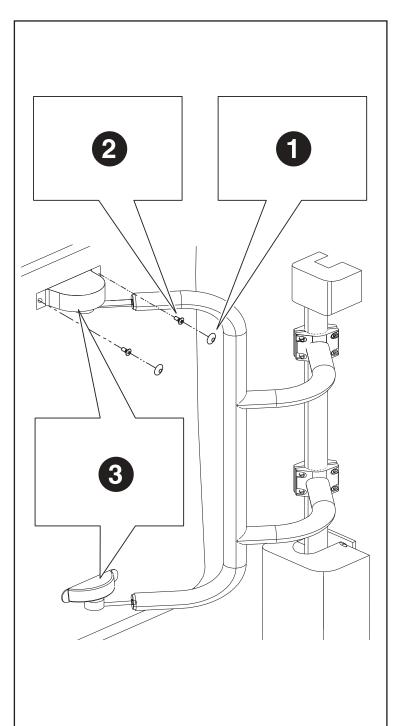
5. Remove the upper stabilizer rod on the door.





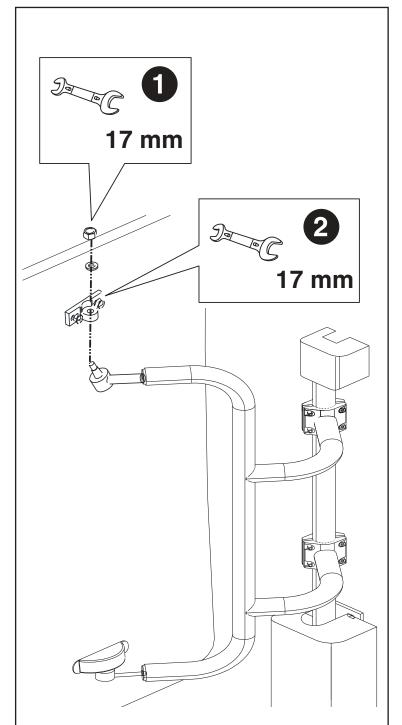
7. Remove rod ends connection screw.





## 4.1.1. Door Disassembly

- Remove screw cap.
   Loosen the screw.
- 3. Remove upper and lower cover.



#### 4.1.1. Door Disassembly

- 1. Door Disassembly

  1. Unscrew nut.
  2. Disassemble the door carrier arm from the upper connection bracket and lower connection bracket.

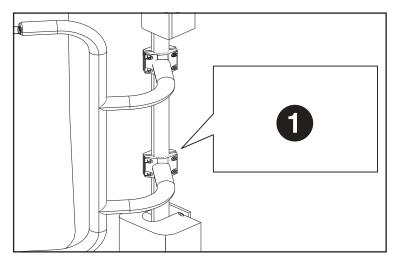


#### CAUTION

After removing the door carrier arm the door will be free, support to prevent from falling down.

#### 4.1.2. Door Assembly

1. Assembly sequence is the reverse sequence of the disassembly process.



#### 4.2. Removal And Installation Of Door Carrier Arm

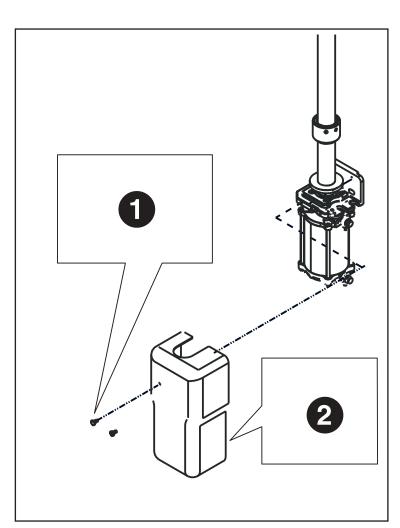
#### 4.2.1. Disassembly Of The Door Carrier Arm

1. First remove door. Remove screws. Disassemble the door carrier arm.

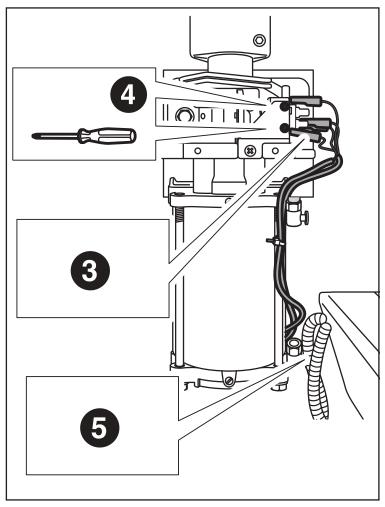
#### 4.2.2. Assembly Of The Door Carrier Arm

1. Assembly sequence is the reverse sequence of the disassembly process.

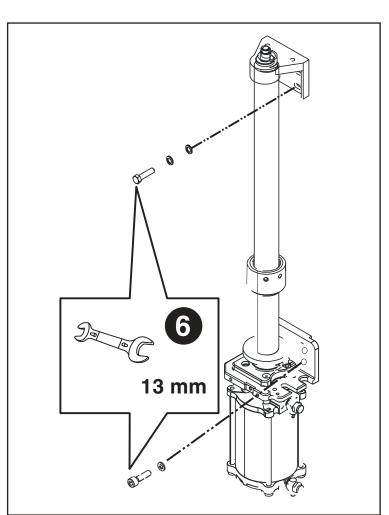




- 4.3. Removal And Installation Of Door Control Cylinder
- 4.3.1. Disassembly Of The Door Control Cylinder
  - 1. Remove screws.
  - 2. Disassemble the cover.



- 3. Disconnect electrical connection.
- 4. Remove screws.
- 5. Disassemble air inlet connections.



# 4.3.1. Disassembly Of The Door Control Cylinder 6. Remove the bolts which connects পুনু প্রকাশ বিশ্ব বিশ্ব

door control cylinder to the vehicle body.

#### 4.3.2. Assembly Of The Door Control Cylinder

1. Assembly sequence is the reverse sequence of the disassembly process.



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## **02 INTERIOR TRIMMING**

#### **INTERIOR TRIMMING • INDEX**

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3.	Headlining  3.1. Removal of the Front Headlining  3.2. Removal of the Rear Headlining	<b>58</b> 58 62
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10.	Inspection Lids	<b>74</b> 74 75
11.	Partition	<b>76</b>

#### General

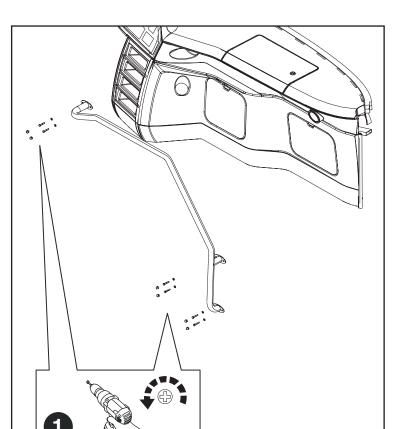
- If work is performed by people who do not have the necessary training to carry out the work or if this information is handled carelessly or totally ignored, this may result in severe injury and/or death. In addition, serious damage to the vehicle may occur.
- Always read the safety instructions in full before starting certain operations. The safety instructions stipulate which aspects must be considered to achieve maximum safety. The information that is given is very important for health and safety.
- Always work in adequately ventilated rooms with sufficient lighting, free from dirt and clutter. Never leave tools or parts lying around, keep away from (high-) voltage sources that present a risk of short-circuiting. Always wear protective clothing. Do not wear any damaged or loose-fitting clothing and remove jewelery before starting the work. In case of long hair use a hairnet.





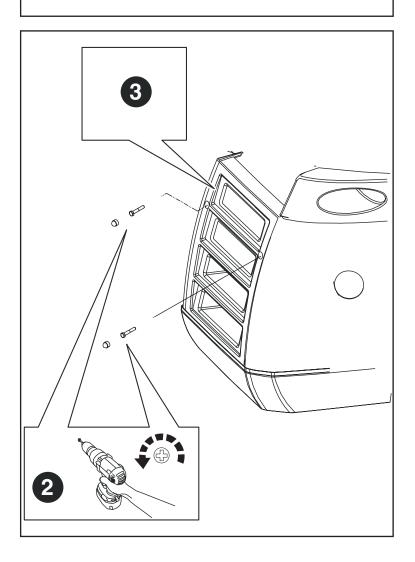




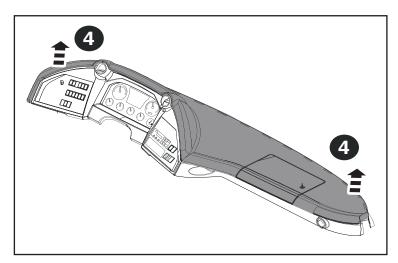


2.2. Removal Of The Upper Panel Of Dashboard

1. Remove caps and connection bolts and remove the handle from the dash board.

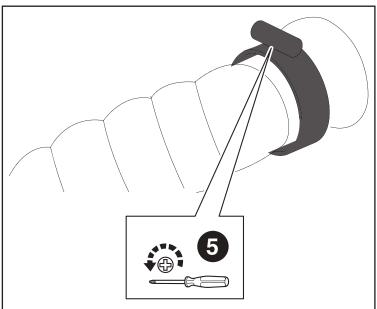


- 2. Remove caps and loosen screws.
- 3. Remove radio console from the dashboard.

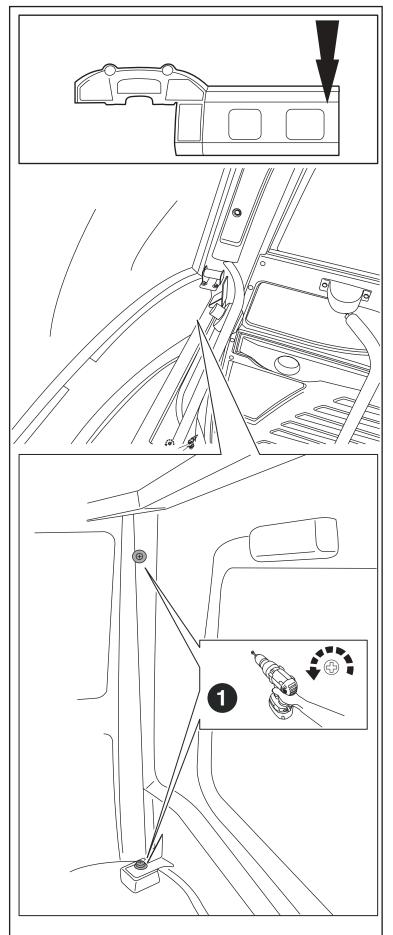


## 2.2. Removal Of The Upper Panel Of Dashboard

4. Lift up the dashboard.



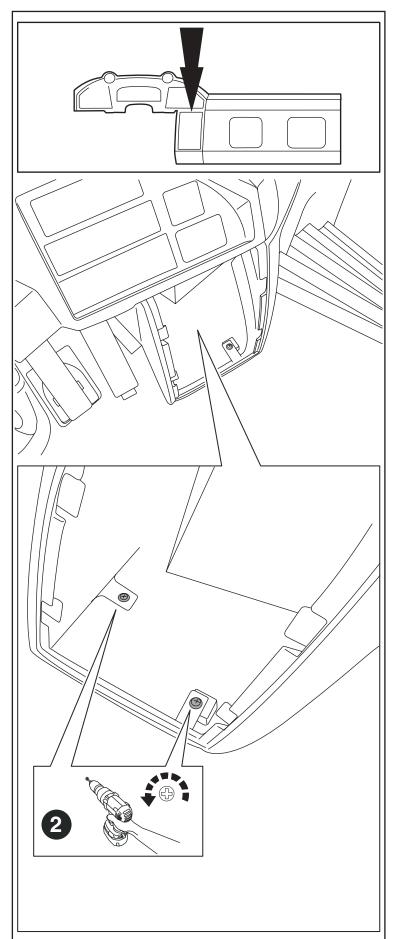
5. Remove air vents from the dashboard.



# 

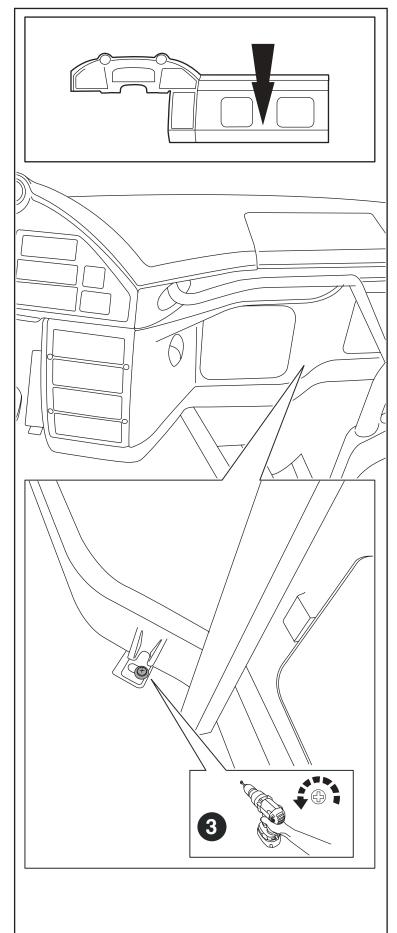
bolts.





## 2.3. Removal Of The Lower Panel of Dashboard

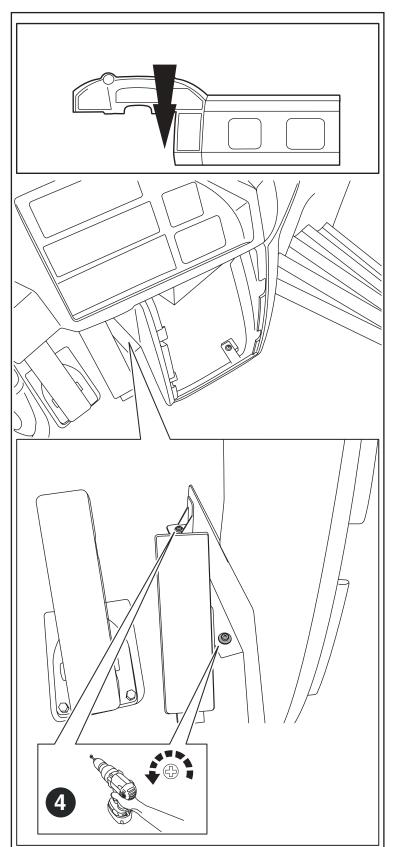
2. Remove dashboard lower connection bolts.



# 2.3. Removal Of The Lower Panel of দিয়ে তি ছিল্লা তি চিকাল বিশ্ব বিশ্র

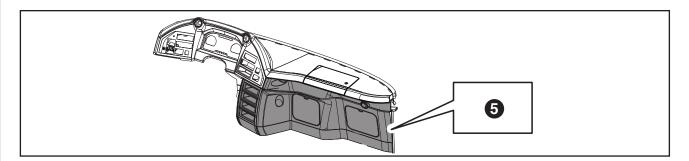
bolts.



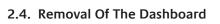


## 2.3. Removal Of The Lower Panel of Dashboard

- 4. Remove dashboard lower connection bolts.
- 5. Pull the lower panel of dashboard.

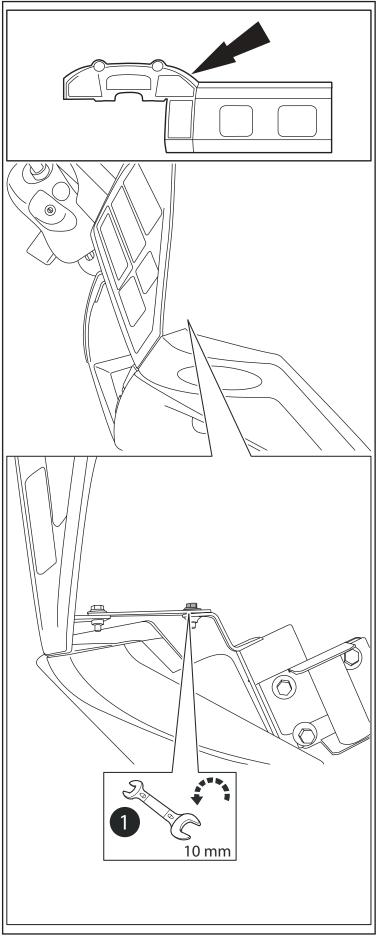


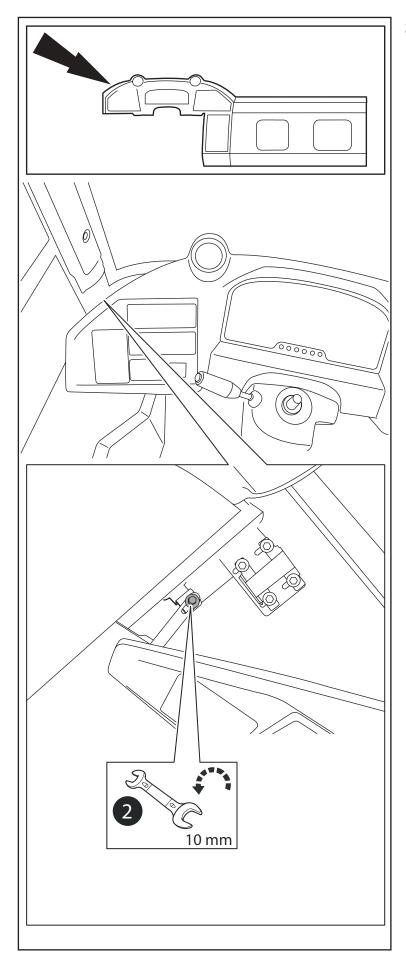




Removal Of The Dashboard

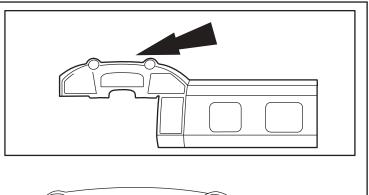
1. Remove garnish connection nut under the right side of garnish.

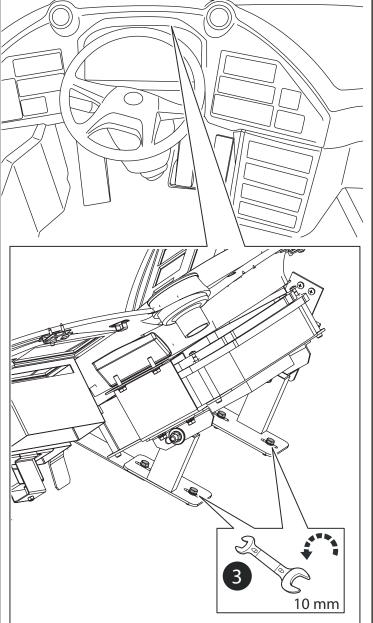




### 2.4. Removal Of The Dashboard

2. Remove garnish connection nut under the left side of garnish.





#### 2.4. Removal Of The Dashboard

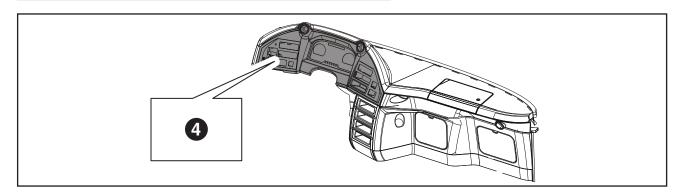
- Removal Of The Dashboard

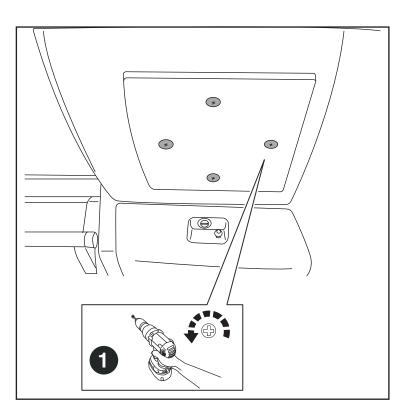
  3. Remove garnish connection nuts under the instrument panel.
- 4. Remove Garnish from the Dashboard.



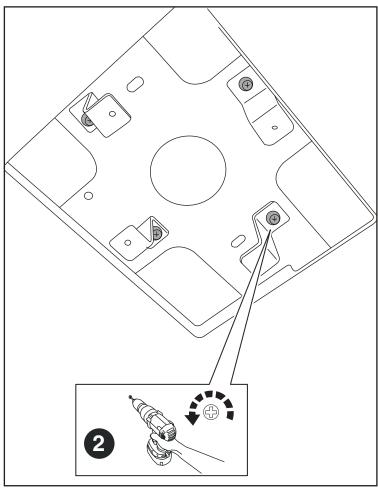
#### CAUTION

Remove all button groups on the left and right control panel and disconnect all electrical connections.



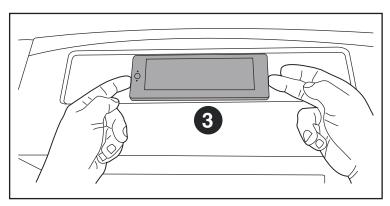


- 3. Headlining3.1. Removal Of The Front Headlining
  - 1. Remove caps.



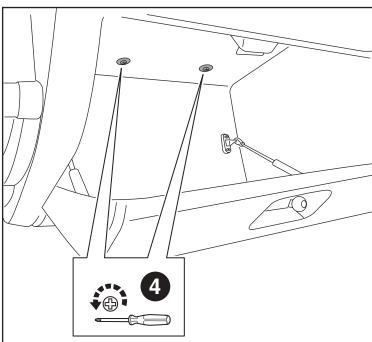
2. Remove connection bolts.

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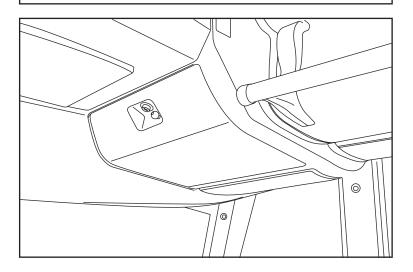


#### 3.1. Removal Of The Front Headlining

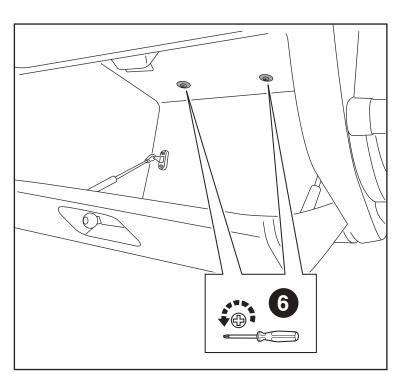
3. Pull the indicator and Remove it.



4. Remove connection bolts.

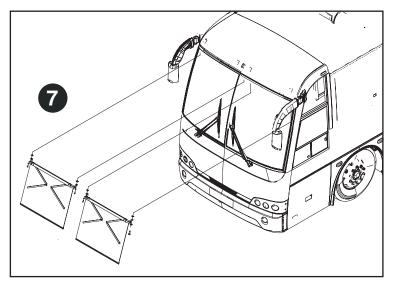


5. Remove connection bolts and Disconnect all electrical connections.

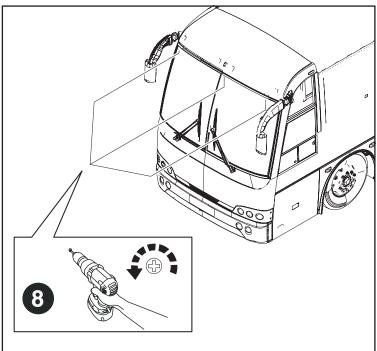


#### 3.1. Removal Of The Front Headlining

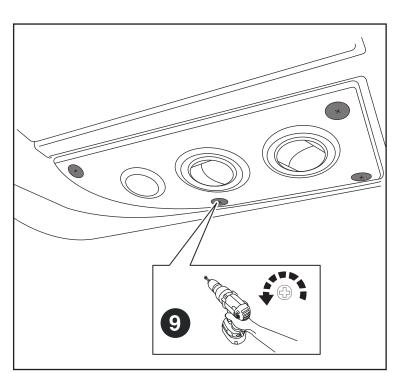
6. Remove connection bolts.



7. Remove sun visors. (See also page XX)

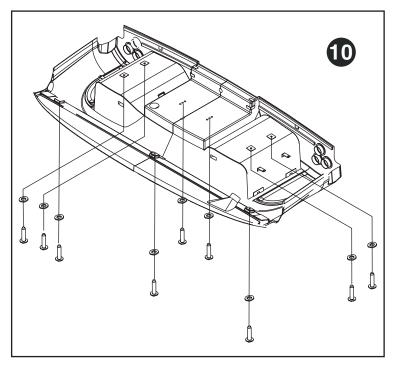


8. Remove connection bolts under the sun visors.

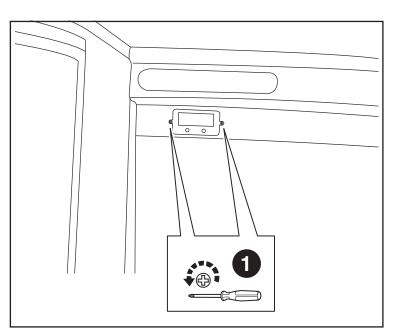


### 3.1. Removal Of The Front Headlining

9. Removal Of The Front Headlining
9. Remove caps and connection bolts. Remove air vents and disconnect all electrical connections.

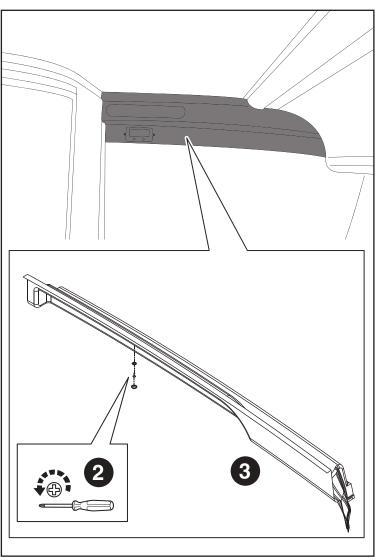


10. Loosen the connection screws and remove front headlining from the vehicle.

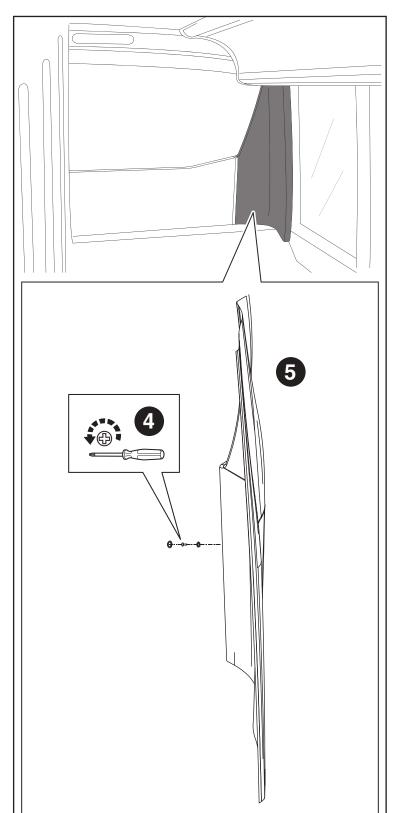


#### 3.2. Removal Of The Rear Headlining

1. Remove connection screws. Pull the indicator and remove electrical connections.



- 2. Remove screw cap and connection screw.
- 3. Remove upper part of rear headlining.

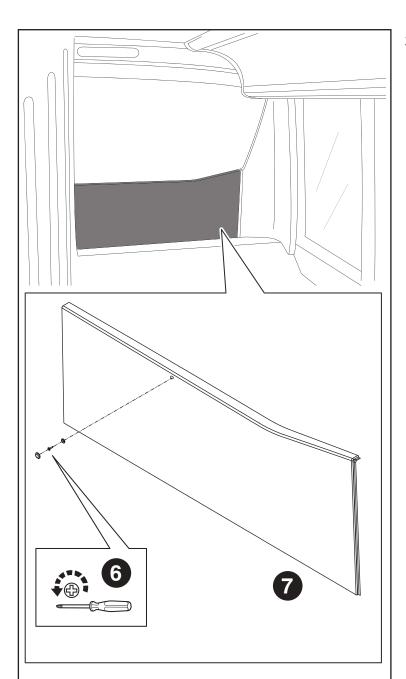


### 3.2. Removal Of The Rear Headlining

- 4. Removal Of The Rear Headlining

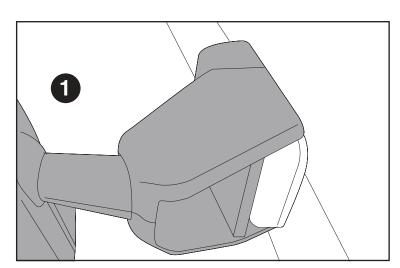
  4. Remove screw cap and connection screws.
- 5. Remove side part of rear headlining.





### 3.2. Removal Of The Rear Headlining

- 6. Remove screw cap and connection screws.
- 7. Remove bottom part of rear headlining.

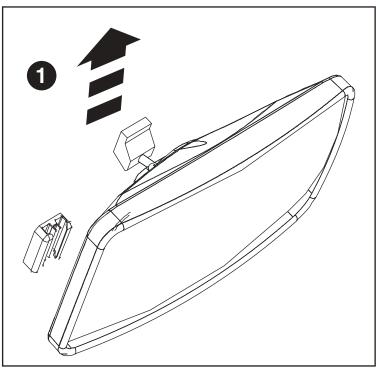


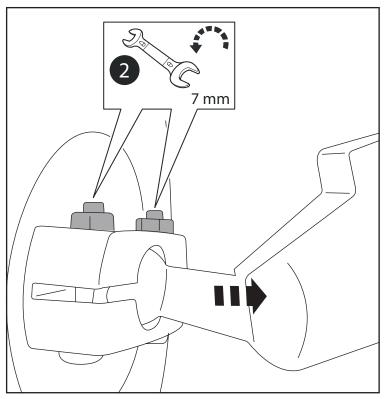
#### 4. Inside Mirror

#### 4.1. Removal Of Inside Mirror

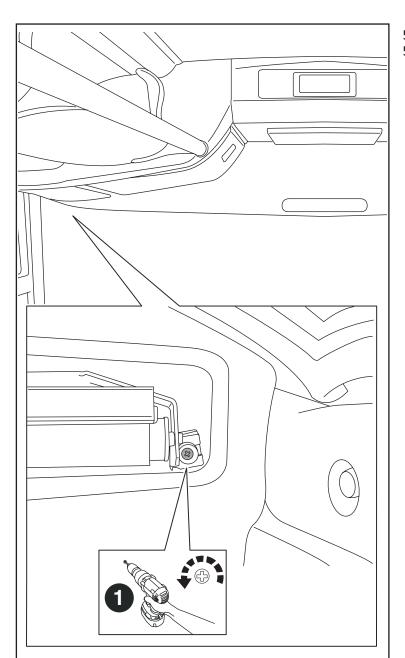
nside Mirror
Removal Of Inside Mirror

1. To remove inside mirror lift up it from the broader. the bracket.





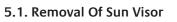
2. Loosen the nuts and remove bracket from the inside mirror



## 5. Sun Visor

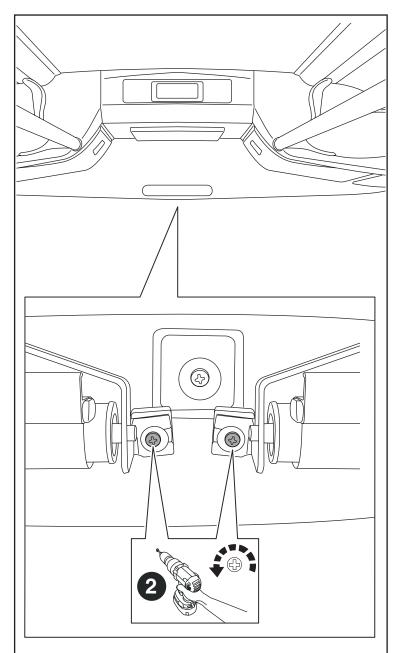
#### 5.1. Removal Of Sun Visor

1. Remove sun visors connection screw.

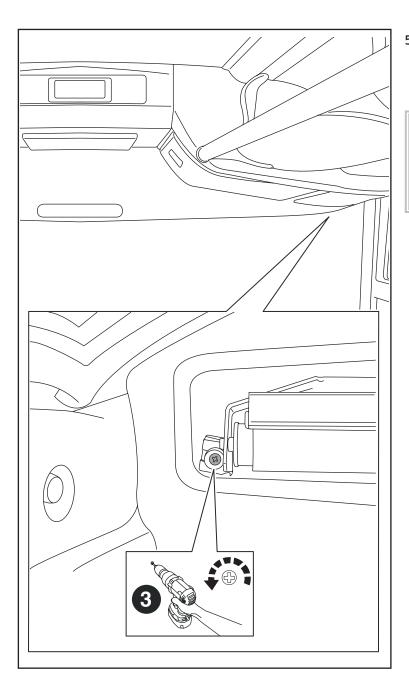


Removal Of Sun Visor

2. Remove sun visors connection screws.





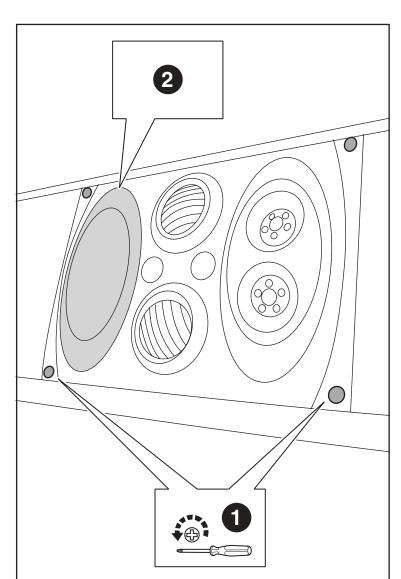


## 5.1. Removal Of Sun Visor

3. Remove sun visors connection screw.





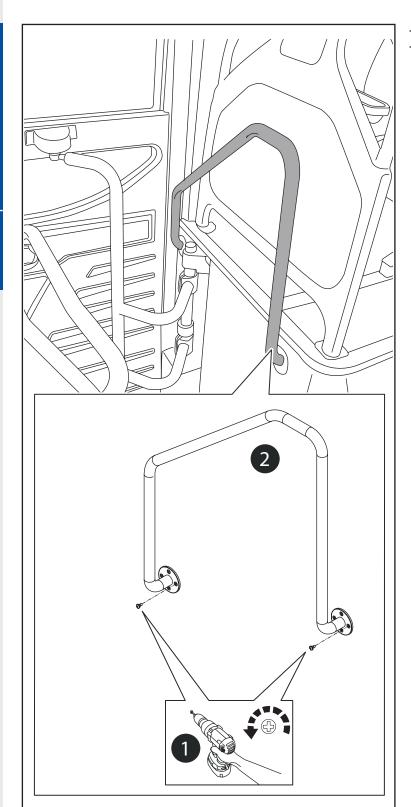


### 6. Speaker

### 6.1. Removal Of Speaker

- peaker
  Removal Of Speaker

  1. Remove screw cap and loosen speaker connection screws.
- 2. Pull and remove passenger speaker.

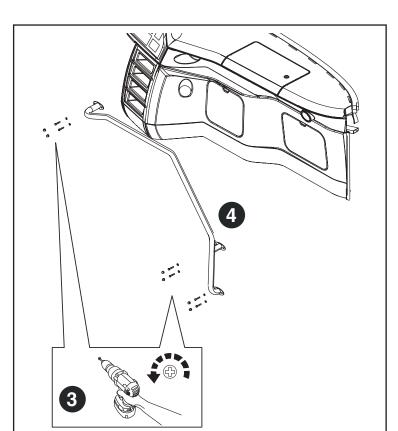


### 7. Handle

#### 7.1. Removal Of Handle

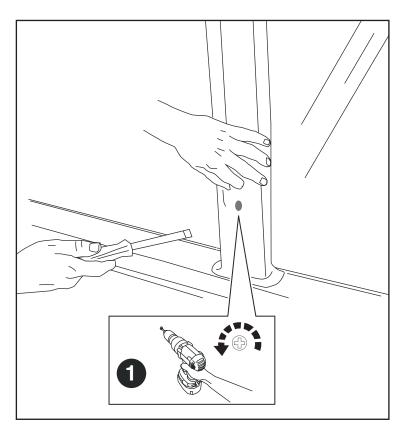
- 1. Remove handle connection screws.
- 2. Remove Handle.





#### 7.1. Removal Of Handle

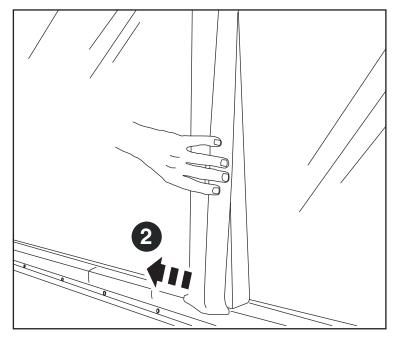
- 3. Remove handle connection screws.
- 4. Remove Handle.



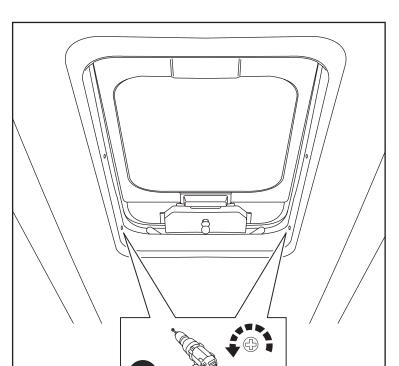
#### 8. Windows Side Panel

#### 8.1. Removal Of Windows Side Panel

1. Remove screw caps and loosen connection screws.



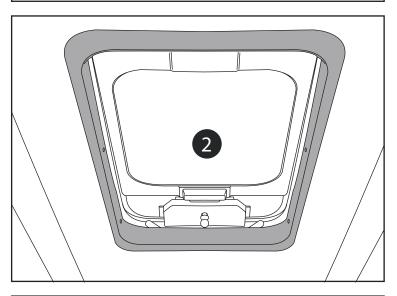
2. Turn windows side panel in the arrow direction.



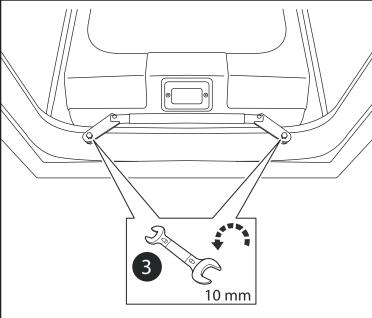
## 9. Emergency Exit9.1. Removal Of Emergency Exit

mergency Exit
Removal Of Emergency Exit

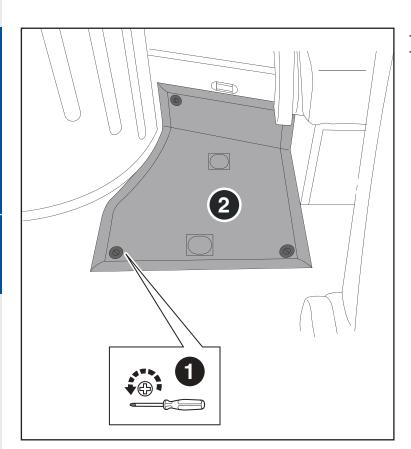
1. Remove connection screw of emergency exit cover.



2. Remove emergency exit cover.

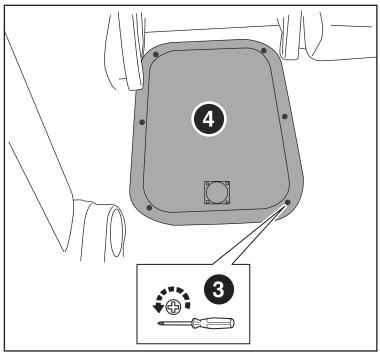


3. Remove connection screws of emergency exit frame.



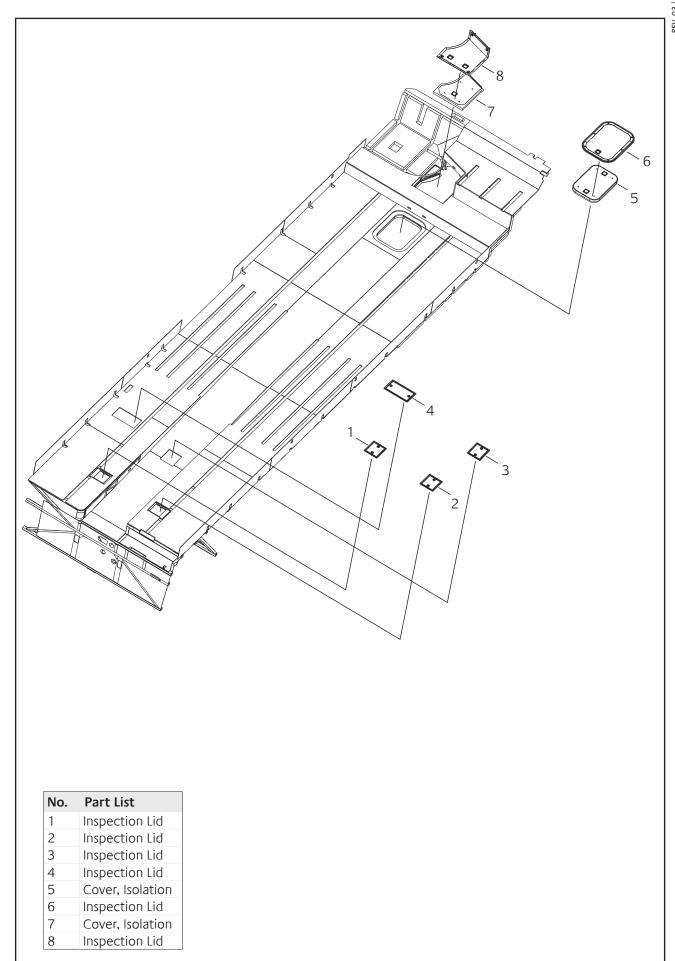
# 10. Inspection Lids10.1. Removal Of Inspection Lids

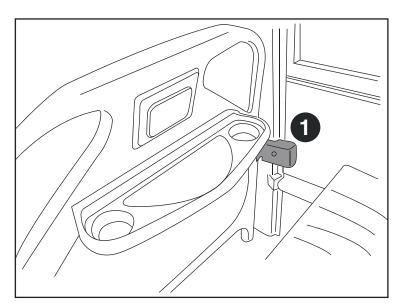
- Remove connection screws.
   Pull the inspection lid.



- 3. Remove connection screws.
- 4. Pull the inspection lid.

### 10.2. Exploded View Of Inspection Lids

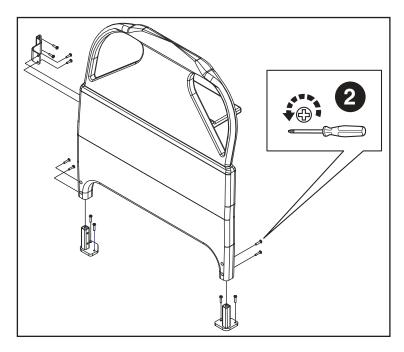




### 11. Partition

#### 11.1. Removal Of Partition

1. Remove cover.



2. Remove 12 connection screws of partition.



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Stamp	

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